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Last update of file: 2003/04/30 (YYYY/MM/DD) 2003-17/UP (basic update)

Search statement 1

Query/Command : US5803975/PN

** SS 1: Results 1

Search statement 2

Query/Command : PRT FULL NONSTOP LEGALALL

1/1 PLUSPAT - ©QUESTEL-ORBIT - image

PN - US5803975 A 19980908 [US5803975]

TI - (A) Microwave plasma processing apparatus and method therefor

PA - (A) CANON KK (JP)

PA0 - Canon Kabushiki Kaisha, [JP]
IN - (A) SUZUKI NOBUMASA (JP)
AP - US80607097 19970225 [1997US-0806070]
PR - JP4488496 19960301 [1996JP-0044884]
JP5728896 19960314 [1996JP-0057288]
IC - (A) C23C-016/00
EC - C23C-016/34C
C23C-016/40B
C23C-016/40B2
C23C-016/511
C23C-016/517
H01J-037/32H3B
PCL - ORIGINAL (O) : 118723000MW; CROSS-REFERENCE (X) : 118723000MA 118723000M
156345410 156345420 204298380 427575000 438726000 438727000 438728000
DT - Basic
CT - US4741800; US4776918; US5024716; US5134965; US5359177; US5487875; US5538699;
345982
STG - (A) United States patent
AB - For generating uniform high-density plasma over a large area with a low power thereby achieving a plasma process at a high speed even at a low temperature, there is provided a microwave plasma apparatus comprising a plasma generation chamber having a periphery separated from the anode dielectric member, microwave introduction means utilizing an endless annular wave guide tube around the plasma generation chamber and provided with plural slots, a processing chamber plasma generation chamber, support means for a substrate to be processed provided in the processing chamber, gas introduction means for the plasma generation chamber and the processing chamber, and for the plasma generation chamber and the processing chamber, wherein the circumferential length of the endless annular wave guide tube, the wavelength λ_g of the microwave in the endless annular wave guide tube, the circumferential length L_s of the dielectric member and the wavelength λ_s of the wave propagating in the dielectric material substantially satisfy a relationship: $L_s/\lambda_s = n$ where n is 0 or a natural number.

1/1 LGST - ©LEGSTAT

PN - US 5803975 [US5803975]
AP - US 806070/97 19970225 [1997US-0806070]
DT - US-P
ACT - 19970225 US/AE-A
APPLICATION DATA (PATENT)
US 806070/97 19970225 [1997US-0806070]

19970625 US/AS02
ASSIGNMENT OF ASSIGNEE'S INTEREST
CANON KABUSHIKI KAISHA 30-2, 3-CHOME, SHIMOMARUKO, OHTA-KU TOKYO
SUZUKI, NOBUMASA : 19970403

19980908 US/A
PATENT

20001024 US/RF
REISSUE APPLICATION FILED
20000908

20010213 US/CC
CERTIFICATE OF CORRECTION

UP - 2001-07

1/1 CRXX - ©CLAIMS/RRX

PN - 5,803,975 D 19980908 [US5803975]

PA - Canon K K JP

ACT - 20000908 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20001024
REISSUE REQUEST NUMBER: 09/657971
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1763

Reissue Patent Number:

20010213 CERTIFICATE OF CORRECTION

Query/Command : FILE INPADOC

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Estimated total session cost	:		Cost estimated for the last database search	2.95 USD
			Estimated total session cost	3.55 USD

LGST - Time in minutes : 0,12
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Legal-Status informations	:	1	Estimated cost :	0.60 USD
Cost estimated for the last database search	:		Estimated cost :	0.50 USD
Estimated total session cost	:		Cost estimated for the last database search	1.25 USD
			Estimated total session cost	4.80 USD

CRXX - Time in minutes : 0,16
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Legal-Status informations	:	1	Estimated cost :	5.30 USD
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Cost estimated for the last database search : 6.08 USD
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LITA - Time in minutes : 0,02
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Search statement 1

Query/Command : FAM US5803975/PN

1 Patent Groups

** SS 1: Results 7

Search statement 2

Query/Command : FAMSTATE NONSTOP

1/1 INPADOC - ©INPADOC

PN - CN 1294481 A 20010509 [CN1294481]
TI - MICROWAVE PLASMA PROCESSOR AND METHOD THEREOF
IN - NOBUMASA SUZUKI [JP]
PA - CANON KK [JP]
AP - CN 2000126475/00-A 20000828 [2000CN-0126475]
PR - JP 44884/96-A 19960301 [1996JP-0044884]
 JP 57288/96-A 19960314 [1996JP-0057288]
IC - H05H-001/46; H01L-021/3065; C23C-016/513

1/1 LEGALI - ©LEGSTAT

PN - CN 1294481 [CN1294481]
DT - CN-P
ACTE - 20010509 CN/BB1A
 PUBLICATION OF APPLICATION
UP - 2001-39

2/7 INPADOC - ©INPADOC

PN - CN 1082569 B 20020410 [CN1082569]
TI - MICROWAVE PLASMA PROCESSING APPTS. AND METHOD THEREFOR
IN - NOBUMASA SUZUKI [JP]
PA - CANON KK [JP]
AP - CN 97110001/97-A 19970228 [1997CN-0110001]
PR - JP 44884/96-A 19960301 [1996JP-0044884]
 JP 57288/96-A 19960314 [1996JP-0057288]
IC - C23C-016/48

3/7 INPADOC - ©INPADOC

PN - CN 1168422 A 19971224 [CN1168422]
TI - MICROWAVE PLASMA PROCESSING APPARATUS AND METHOD THEREFOR
IN - SUZUKI NOBUMASA [JP]
PA - CANON KK [JP]
AP - CN 97110001/97-A 19970228 [1997CN-0110001]
PR - JP 44884/96-A 19960301 [1996JP-0044884]
 JP 57288/96-A 19960314 [1996JP-0057288]
IC - C23C-016/48

4/7 INPADOC - ©INPADOC

PN - JP 3295336 B2 20020624 [JP3295336]
AP - JP 40515/97-A 19970225 [1997JP-0040515]
PR - JP 40515/97-A 19970225 [1997JP-0040515]
 JP 44884/96-A 19960301 [1996JP-0044884]
 JP 57288/96-A 19960314 [1996JP-0057288]
IC - H01L-021/31; C23C-016/50; C23F-004/00; H01L-021/205; H01L-021/3065; H05H-001/46

5/7 INPADOC - ©INPADOC

PN - JP 9306900 A2 19971128 [JP09306900]
TI - MICROWAVE PLASMA PROCESSOR AND PLASMA PROCESSING METHOD
IN - SUZUKI NOBUMASA
PA - CANON KK
AP - JP 40515/97-A 19970225 [1997JP-0040515]
PR - JP 40515/97-A 19970225 [1997JP-0040515]
 JP 44884/96-A 19960301 [1996JP-0044884]
 JP 57288/96-A 19960314 [1996JP-0057288]
IC - H01L-021/31; C23C-016/50; C23F-004/00; H01L-021/205; H01L-021/3065; H05H-001/46

6/7 INPADOC - ©INPADOC

PN - KR 234509 B1 19991215 [KR-234509]

TI - MICROWAVE PLASMA PROCESSING APPARATUS AND METHOD THEREFOR
IN - SUZUKI NOBUMASA [JP]
PA - CANON KK [JP]
AP - KR 9706840/97-A 19970228 [1997KR-0006840]
PR - JP 44884/96-A 19960301 [1996JP-0044884]
JP 57288/96-A 19960314 [1996JP-0057288]
IC - H05H-001/00

7/7 INPADOC - ©INPADOC

PN - US 5803975 A 19980908 [US5803975]
TI - MICROWAVE PLASMA PROCESSING APPARATUS AND METHOD THEREFOR
IN - SUZUKI NOBUMASA [JP]
PA - CANON KK [JP]
AP - US 806070/97-A 19970225 [1997US-0806070]
PR - JP 44884/96-A 19960301 [1996JP-0044884]
JP 57288/96-A 19960314 [1996JP-0057288]
IC - C23C-016/00

1/1 LEGALI - ©LEGSTAT

PN - US 5803975 [US5803975]
AP - US 806070/97 19970225 [1997US-0806070]
DT - US-P
ACTE - 19970225 US/AE-A
APPLICATION DATA (PATENT)
US 806070/97 19970225 [1997US-0806070]

19970625 US/AS02
ASSIGNMENT OF ASSIGNOR'S INTEREST
CANON KABUSHIKI KAISHA 30-2, 3-CHOME, SHIMOMARUKO, OHTA-KU TOKYO
SUZUKI, NOBUMASA : 19970403

19980908 US/A

PATENT

20001024 US/RF

REISSUE APPLICATION FILED
20000908

20010213 US/CC

CERTIFICATE OF CORRECTION

UP - 2001-07

PATNO IS 5803975

DATE: MAY 5, 2003
LIBRARY: PATENT
FILE: ALL

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PATNO IS 5803975

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LEVEL 1 - 1 PATENT

1. 5803975 , September 8, 1998 , Microwave plasma processing apparatus and method therefor, Suzuki, Nobumasa, Yokohama, JP, 806070 (08), Canon Kabushiki Kaisha, JP, June 25, 1997 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS) ., CANON KABUSHIKI KAISHA 30-2, 3-CHOME, SHIMOMARUKO, OHTA-KU TOKYO JAPAN, Reel and Frame Number: 008584/0392

CORE TERMS: plasma, chamber, processing, gas, generation, sub, microwave, substrate, film, tube ...

LEVEL 1 - 1 OF 1 PATENT

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5803975

<=1> GET 1st DRAWING SHEET OF 9

September 8, 1998

Microwave plasma processing apparatus and method therefor

REISSUE: Reissue Application filed Sep. 8, 2000 (O.G. Oct. 24, 2000) Ex. Gp.: 1763; Re. S.N. 09/657,971, (O.G. October 24, 2000)

CERT-CORRECTION: February 13, 2001 - a Certificate of Correction was issued for this patent (O.G. February 13, 2001)

APPL-NO: 806070 (08)

FILED-DATE: February 25, 1997

GRANTED-DATE: September 8, 1998

CORE TERMS: plasma, chamber, processing, gas, generation, sub, microwave, substrate, film, tube ...

5803975 OR 5,803,975

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